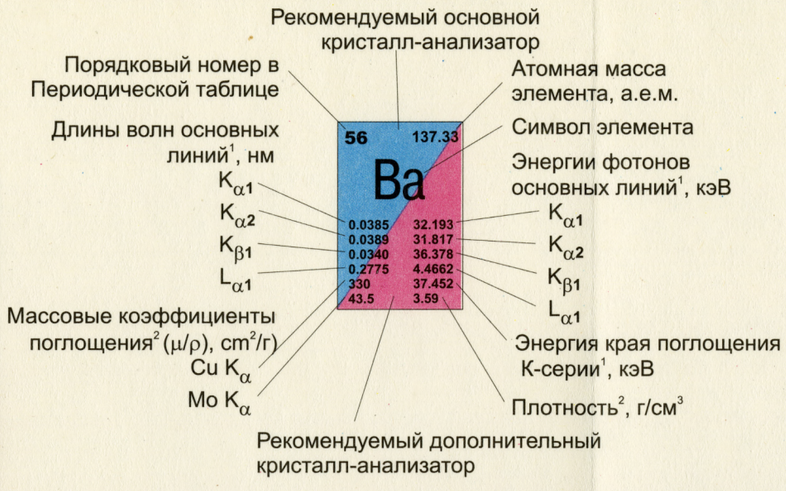
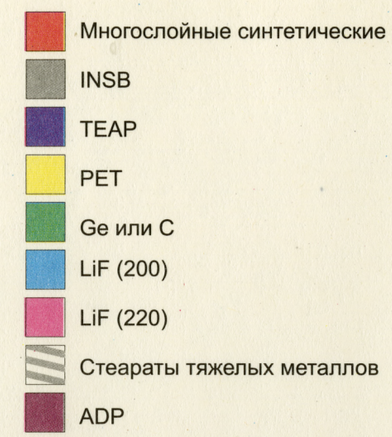
Рентгеноспектральный анализ





1. Блохин М.А.,Швейцер И.Г. Рентгеноспектральный справочник,М.:Наука. 1982. 376 с.
2. Эмсли Дж. Элементы. М.:Мир. 1993. 256 с.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	1.01 H 0.435 0.380 0.076																	4.0 He 0.383 0.207 0.124
2	6.94 Li 0.0543 0.716 0.0547 0.217 0.534	9.01 Be 0.1085 1.5 0.111 0.298 1.84											10.84 B 0.1833 2.39 0.392 2.34	12.01 C 0.277 4.60 0.2838 0.625 3.51	14.01 N 0.3924 7.52 0.400 0.916 1.02	16 O 0.5249 11.5 0.5317 1.31 2.000	18.99 F 0.6768 16.4 0.6888 1.80 1.14	20.18 Ne 0.8486 1.446 0.8579 22.9 0.8668 2.47 1.44
3	22.99 Na 1.0409 1.162 1.0711 40.71 30.1 1.0716 3.21 0.971	24.30 Mg 1.2536 0.9558 1.3022 25.15 38.6 1.3033 4.11 1.73											26.98 Al 0.8339 1.4867 0.8341 1.4862 0.7960 1.5574 17.14 48.6 1.5598 5.16 2.69	28.09 Si 0.7125 1.7399 0.7127 1.7393 0.6753 1.8359 13.55 60.6 1.840 6.44 2.33	30.97 P 0.6156 2.0137 0.6159 2.0127 0.5796 2.1390 10.38 74.1 2.1435 7.89 1.82	32.07 S 0.5372 2.3078 0.5374 2.3066 0.5031 2.4640 89.1 2.4704 9.55 2.07	35.45 CL 0.4727 2.6223 0.4730 2.6207 0.4403 2.8156 106 2.8196 11.4 2.03	39.95 Ar 0.4191 2.9577 0.4194 2.9556 0.3886 3.1905 123 3.2029 13.5 1.65
4	39.10 K 0.3741 3.3138 0.3744 3.3111 0.3453 3.5896 4.27 143 3.6078 15.8 0.862	40.08 Ca 0.3358 3.6916 0.3361 3.6880 0.3089 4.0127 3.633 162 4.0381 18.3 1.55	44.96 Sc 0.3030 4.0906 0.3034 4.0861 0.2779 4.4605 3.135 184 4.489 21.1 2.98	47.88 Ti 0.2748 4.5108 0.2752 4.5048 0.2513 4.9318 2.742 208 4.9645 24.2 4.54	50.94 V 0.2503 4.9522 0.2507 4.9446 0.2284 5.4272 2.425 233 5.4639 27.5 6.11	51.99 Cr 0.2289 5.4147 0.2293 5.4055 0.2084 5.9467 2.164 260 5.9888 31.1 7.19	54.94 Mn 0.2101 5.8987 0.2105 5.8876 0.1910 6.4904 1.945 285 6.5376 34.7 7.44	55.85 Fe 0.1936 6.4038 0.1939 6.3908 0.1756 7.0579 1.759 308 7.1112 38.5 7.87	58.9 Co 0.1788 6.9303 0.1792 6.9153 0.1620 7.6494 1.5972 313 7.7095 42.5 8.90	58.69 Ni 0.1657 7.4781 0.1661 7.4608 0.1500 8.2646 1.4561 45.7 8.3316 46.6 8.90	63.55 Cu 0.1540 8.0477 0.1544 8.0277 0.1392 8.9052 1.3336 52.9 8.9803 50.9 8.96	65.39 Zn 0.1435 8.6388 0.1439 8.6157 0.1295 9.5720 1.2254 60.3 9.6607 55.4 7.13	69.72 Ga 0.1340 9.2517 0.1343 9.2248 0.1207 10.264 1.1292 67.9 10.368 60.1 5.90	72.59 Ge 0.1254 9.8864 0.1258 9.8553 0.1128 10.982 1.0436 75.6 11.103 64.8 5.32	74.92 As 0.1175 10.543 0.1179 10.507 0.1057 11.726 0.9670 83.4 11.865 69.7 5.78	78.96 Se 0.1104 11.222 0.1108 11.181 0.0992 12.495 0.8990 91.4 12.654 74.7 4.79	79.9 Br 0.1039 11.924 0.1043 11.877 0.0932 13.291 0.8374 1.4804 99.6 13.470 79.8 4.05	83.8 Kr 0.0980 12.694 0.0984 12.598 0.0878 14.112 0.7817 1.5860 108 * 14.324 84.9 2.82
5	85.47 Rb 0.0925 13.395 0.0929 13.335 0.0828 14.961 0.7318 1.6941 117 15.202 90.0 1.53	87.62 Sr 0.0875 14.165 0.0879 14.097 0.0782 15.835 0.6862 1.8065 125 16.107 95.0 2.54	88.91 Y 0.0828 14.958 0.0833 14.882 0.0740 16.737 0.6448 1.9225 134 17.038 100 4.46	91.22 Zr 0.0785 15.775 0.0790 15.690 0.0701 17.667 0.6070 2.0423 143 17.998 15.9 6.50	92.91 Nb 0.0746 16.615 0.0750 16.521 0.0665 18.622 0.5724 2.1658 153 18.986 17.1 8.57	95.94 Mo 0.0709 17.479 0.0713 17.374 0.0632 19.608 0.5406 2.2931 162 20.003 18.4 10.22	97.91 Tc 0.0675 18.367 0.0679 18.250 0.0601 20.619 0.5114 2.4240 172 21.047 19.7 11.5	101.07 Ru 0.0643 19.279 0.0647 19.150 0.0572 21.656 0.4845 2.5585 183 22.119 21.1 12.37	102.91 Rh 0.0613 20.216 0.0617 20.073 0.0545 22.723 0.4597 2.6967 194 23.219 22.6 12.41	106.42 Pd 0.0585 21.177 0.0589 21.020 0.0520 23.818 0.4367 2.8386 206 24.348 24.1 12.02	107.87 Ag 0.0559 22.162 0.0563 21.990 0.0497 24.942 0.4154 2.9843 218 25.516 25.8 10.50	112.41 Cd 0.0535 23.173 0.0539 22.984 0.0475 26.095 0.3956 3.1337 231 26.715 27.5 8.65	114.82 In 0.0512 24.209 0.0516 24.002 0.0455 27.275 0.3771 3.2869 243 27.942 29.3 7.31	118.71 Sn 0.0490 25.271 0.0495 25.044 0.0435 28.486 0.3599 3.4439 256 29.194 31.1 5.75	121.75 Sb 0.0470 26.3591 0.0474 26.1108 0.0417 29.725 0.3439 3.6047 270 30.486 33.1 6.69	127.6 Te 0.0451 27.472 0.0455 27.201 0.0399 30.995 0.3289 3.7693 282 31.811 35.0 6.24	126.9 I 0.0433 28.612 0.0437 28.317 0.0383 32.294 0.3148 3.9376 294 33.166 37.1 4.93	131.29 Xe 0.0416 29.779 0.0420 29.458 0.0368 33.624 0.3016 4.1099 306 34.59 39.2 3.54
6	132.90 Cs 0.0400 30.972 0.0404 30.625 0.0354 34.986 0.2892 4.2865 318 35.987 41.3 1.87	137.33 Ba 0.0385 32.193 0.0389 31.817 0.0340 36.378 0.2775 4.4662 330 37.452 43.5 3.59	138.91 La 0.0370 33.441 0.0375 33.034 0.0327 37.801 0.2665 4.6509 341 38.934 45.8 6.14	178.49 Hf 0.0222 55.790 0.0227 54.611 0.0196 63.234 0.1569 7.8990 159 65.31 91.7 13.31	180.95 Ta 0.0215 57.532 0.0220 56.277 0.0190 65.233 0.1521 8.1461 166 67.403 95.4 16.65	183.85 W 0.0209 59.318 0.0213 57.981 0.0184 67.244 0.1476 8.3976 172 69.508 99.1 19.30	186.21 Re 0.0202 61.140 0.0207 59.717 0.0178 69.310 0.1432 8.6525 179 71.658 103 21.02	190.20 Os 0.0196 63.000 0.0201 61.486 0.0173 71.413 0.1391 8.9117 186 73.856 106 22.59	192.22 Ir 0.0191 64.895 0.0195 63.286 0.0168 73.560 0.1351 9.1751 193 76.101 110 22.56	195.08 Pt 0.0185 66.832 0.0190 65.122 0.0163 75.748 0.1313 9.4423 200 78.381 113 21.45	196.97 Au 0.0180 68.8037 0.0185 66.989 0.0158 77.984 0.1276 9.7133 208 80.720 115 19.32	200.59 Hg 0.0175 70.819 0.0179 68.895 0.0154 80.253 0.1241 9.9888 216 83.109 117 13.54	204.38 Tl 0.0170 72.871 0.0175 70.831 0.0150 82.576 0.1207 10.268 224 85.533 119 11.85	207.20 Pb 0.0165 74.969 0.0170 72.804 0.0145 84.936 0.1175 10.551 232 88.005 120 11.35	208.98 Bi 0.0160 77.107 0.0165 74.814 0.0141 87.343 0.1143 10.838 240 90.534 120 9.74	208.98 Po 0.0156 79.290 0.0161 76.862 0.0138 89.80 0.1113 11.130 262 144 9.32	209.99 At 0.0152 81.52 0.0157 78.95 0.0134 92.30 0.1085 11.426 272 149	222.02 Rn 0.0147 83.78 0.0152 81.07 0.0130 94.87 0.1057 11.727 283 135 4.4
7	223.02 Fr 0.0143 86.10 0.0148 83.23 0.0127 97.47 0.1030 12.031 294 88	226.02 Ra 0.0140 88.47 0.0145 85.43 0.0123 100.13 0.1004 12.339 304 91 5.00	227.03 Ac 0.0136 90.884 0.0141 87.67 0.0120 102.85 0.0979 12.652 316 94 10.06															

	3	4	5	6	7	8	9	10	11	12	13	14	15
6	140.12 Ce 0.0357 34.719 0.0361 34.278 0.0315 39.257 0.2561 4.8402 352 40.453 48.2 8.24	140.91 Pr 0.0344 36.026 0.0348 35.550 0.0304 40.748 0.2463 5.0337 363 42.002 50.7 6.77	144.24 Nd 0.0331 37.361 0.0336 36.847 0.0293 42.271 0.2370 5.2304 374 43.574 53.2 7.0	144.91 Pm 0.0320 38.724 0.0324 38.171 0.0282 43.826 0.2282 5.4325 386 45.198 55.9 7.22	150.36 Sm 0.0309 40.118 0.0313 39.522 0.0273 45.413 0.2199 5.6361 397 46.849 58.6 7.52	151.96 Eu 0.0298 41.542 0.0303 40.901 0.0263 47.087 0.2120 5.8457 42.5 48.519 61.5 5.24	157.25 Gd 0.0288 42.996 0.0293 42.308 0.0254 48.697 0.2046 6.0572 439 50.233 64.4 7.90	158.93 Tb 0.0278 44.481 0.0283 43.744 0.0246 50.382 0.1976 6.2728 273 52.002 67.5 8.23	162.5 Dy 0.0269 45.998 0.0274 45.207 0.0237 52.119 0.1908 6.4952 286 53.793 70.6 8.55	164.93 Ho 0.0260 47.546 0.0265 46.699 0.0230 53.877 0.1845 6.7198 128 55.619 73.9 8.79	167.26 Er 0.0252 49.127 0.0257 48.221 0.0222 56.681 0.1784 6.9487 134 57.487 77.3 9.06	168.93 Tm 0.0244 50.741 0.0249 49.772 0.0215 57.517 0.1726 7.1799 140 59.38 80.8 9.32	173.04 Yb 0.0236 52.388 0.0241 51.354 0.0208 59.37 0.1671 7.4156 146 61.30 84.5 6.96	174.97 Lu 0.0229 54.069 0.0234 52.965 0.0202 61.283 0.1619 7.6555 153 63.31 88.2 9.84
7	232.04 Th 0.0132 93.350 0.0137 89.953 0.0117 105.60 0.0956 12.968 327 109.64 97 11.72	231.04 Pa 0.0129 95.868 0.0134 92.287 0.0114 108.42 0.0932 13.290 342 100 15.37	238.03 U 0.0125 98.439 0.0130 94.665 0.0111 111.30 0.0910 13.614 352 115.62 103 18.95	237.05 Np 0.0122 0.0127 0.0108 0.0888 13.944 367 106 20.25	244.06 Pu 0.0119 0.0124 0.0105 0.0868 14.278 382 51 19.84	243.06 Am 0.0116 0.0121 0.0103 0.0848 14.667 395 52 13.67	247.07 Cm 0.0113 0.0118 0.0100 0.0828 412 53.5 13.30	247.07 Bk 0.0110 0.0115 0.0098 0.0809 427 55 14.79	251.08 Cf 0.0107 0.0113 0.0095 0.0791 443 57	252.08 Es 0.0105 0.0110 0.0093 0.0774 461 59	257.09 Fm 0.0102 0.0107 0.0091 0.0757 480 60	258.10 Md	260.10 No Lr

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